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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,221

08/31/2006

Steven Porter Hotelling

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10/20/2008

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EXAMINER

CHAPMAN JR, JOHN E

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

10/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,221	Applicant(s) HOTELLING ET AL.	
	Examiner John E. Chapman	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-11 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-11 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 5-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okoshi et al. (6,880,399) in view of Hayworth et al. (6,823,734).

Okoshi et al. discloses an assembly (30) having suspension members (44), the suspension members isolating the assembly and components mounted on the assembly from vibrations (col. 6, lines 1-13) and passing signals between at least one component mounted on the assembly and an external computer not mounted on the assembly (col. 8, lines 46-52); a vibrating member (21) mounted on the assembly; and a sensor (27) mounted on the assembly for detecting movement of the vibrating member in response to rotation of the assembly (col. 8, lines 41-43), the sensor outputting an analog signal responsive to the rotation of the assembly; and an IC (35) mounted on the assembly and coupled to the sensor and the suspension members, the IC receiving the analog signal from the sensor and transmitting, through at least one of the suspension members (44), data indicative of the rotation of the assembly to the computer. The only difference between the claimed invention and the prior art consists in providing a digital IC for providing a digital signal to the external computer. It is well known in the art to provide a digital application specific integrated circuit (ASIC) in order to provide a compact, lightweight and inexpensive precision inertial reference unit, as taught by Hayworth et al. (col. 5, lines 41-47). Accordingly, merely to provide an ASIC for the IC (35) of Okoshi et al. would have been obvious to one of ordinary skill in the art.

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Regarding claim 5, it is well known in the art and would have been obvious to one of ordinary skill in the art to store a calibration value in order to provide a calibrated output signal.

Regarding claim 6, it is well known to determine the calibration value externally.

Regarding claim 7, it is well known to determine the calibration value internally.

Regarding claim 9, it is well known in the art to control the amplitude of vibration of a vibrating member.

Regarding claim 10, it is well known in the art to control the startup frequency of the driver of a vibrating member.

Regarding claim 11, it would have been obvious to use an auto-calibration loop that uses an externally provided calibration factor.

3. Claims 3, 4 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okoshi et al. in view of Hayworth et al. as applied to claim 1 above, and further in view of Hamisch et al. (5,247,252) or Henderson et al. (5,237,871).

Regarding claims 3 and 22, the only further difference between the claimed invention and the prior art consists in using helical springs to mount the assembly (30) of Okoshi et al. Hamisch discloses contact springs 18 for both the elastic suspension of the sensor (10) and the transmission of the electric measuring signal (see col. 3, lines 47-54). Henderson discloses springs (36) for suspending a sensor as well as providing electrical connection (see col. 6, lines 34-37). Accordingly, it would have been obvious one of ordinary skill in the art to use helical springs to mount the assembly (30) of Okoshi et al.

Regarding claim 4, using a serial digital communication protocol is common in the art.

4. Applicant's arguments filed July 21, 2008 have been considered but are moot in view of the new ground(s) of rejection.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John E. Chapman whose telephone number is (571) 272-2191. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John E Chapman/
Primary Examiner
Art Unit 2856